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SCIENCE NEWS LETTER

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THE WEEKLY SUMMARY OF CURRENT SCIENCE •



APRIL 18, 1936

"Seein' Things at Night"

See Page 258

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DO YOU KNOW?

The average lifetime of a mule is longer than that of a horse—mules 18 years, horses 15.

About two and one-half million huge stone blocks were used in building the famous pyramid of Cheops in Egypt.

There is more vitamin C in ripe tomatoes than in green ones; but as green peas mature they have less of this vitamin.

The Second Byrd Antarctic Expedition brought back plant specimens from within 200 miles of the South Pole.

Blond Eskimos, explains an anthropologist, are probably the mixed blood descendants of fair-haired explorers and adventurers from other countries.

Nine persons in a thousand stutter, and eight of these will show symptoms of stuttering before they reach school age.

Long before Europe's builders made churches with vaulted central roofs and lower vaults at the sides, Egypt used this architectural idea in royal palaces.

The Fiji Islands are to have a radio broadcasting station.

Skeletons of two Indians have been found in excavations for a running track on the University of Kentucky campus.

Made-to-measure lighting is gaining popularity in Europe, by the application of tubular lamps which are made as much as four feet long bent to any contour.

A scientist in Iceland found "dense and various vegetation" and several kinds of insects living on the ice in a layer of soil less than two-tenths of an inch thick.

The Department of Agriculture says a skylark may be a "blithe spirit" in poetry, but in American agriculture it is an undesirable alien, barred from importation.

A crocodile from India, cut out of stone in the third century B.C., has been acquired by the Boston Museum of Fine Arts, and is pronounced the oldest stone sculpture from India that has ever come to America.

WITH THE SCIENCES THIS WEEK

Most articles are based on communications to Science Service or papers before meetings, but where published sources are used they are referred to in the article.

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MEDICINE

Importance of Heredity as Cause of Cancer Stressed

**Disease Possibly Linked with Aging Process;
Is Result of Many Influences Within the Body**

THE IMPORTANCE of heredity or of constitutional factors in the causation of cancer was stressed at the meeting of the American Association for Cancer Research at Boston, Mass.

Failure to nurse one's young, for example, causes breast cancer only when there is a constitutional tendency to the disease. This was brought out in studies on mice reported by Dr. C. V. Green and Elizabeth Fekete of the Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Maine.

Cancer-susceptible individuals may be those having a constitutional tendency to grow old, physiologically, at an early age. Studies of the blood in cancerous mice suggest this possible linking of cancer with the aging process, Dr. Leonell C. Strong of Yale University School of Medicine reported.

A defect in the supply of hemoglobin, the oxygen-carrier in circulating blood, was found by Dr. Strong in mice with a known hereditary tendency to cancer.

"This defect is probably hereditarily determined," Dr. Strong said. "The precocious drop in hemoglobin reflects possibly a premature aging involution process in those mice which are more susceptible to develop spontaneous cancer."

From his own and other studies, Dr. Strong concludes that susceptibility to spontaneous cancer is not controlled by a single genetic determiner and that cancer of any part of the body is the resultant of many influences within the body. The mechanism that controls the start of cancer is, however, not entirely genetic or constitutional.

The relation between breast cancer and nursing was found by experiments on two groups of mice. One group was of a strain highly susceptible to develop spontaneous breast cancer. The other group was from a strain in which such cancers practically never appear. When the females were ten days old, before the breasts had developed, the nipples on one side were sealed permanently without injuring the glands. When the mice bore young, they could therefore nurse from only one side, although the

breasts of both sides secreted milk.

As a result, milk stagnation occurred, a condition which has sometimes been suggested as a possible cause of cancer in human mothers. This condition apparently did cause cancer in the mice with the strong hereditary tendency to the disease. More than seven times as many females of the cancer-susceptible strain developed breast cancers on the blocked side as on the untreated side, and the cancers appeared, on the average, two and a half months earlier than on the untreated side.

In the mice of the cancer-resistant strain, however, no female whatever developed cancer. This finding seems to give further evidence of the importance of the hereditary factor.

The slowing of cancerous growth in

mice by a sulfur-containing compound was reported by Dr. Stanley P. Reimann of the Lankenau Hospital, Philadelphia. The results obtained with this compound do not mean that a chemical cure for cancer has been found or that cancer can or will be eradicated by simply retarding its growth by chemical treatment, Dr. Reimann emphasized.

The results are significant, however, because the chemical which slowed the growth of the cancer is derived from a naturally occurring chemical compound which itself probably takes part in natural growth processes within the body.

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ASTRONOMY-PHOTOGRAPHY

Photographic Improvements For Eclipse Expedition

ECLIPSE photographs that can be enlarged 500 or 600 times, spectrographic records of infra-red rays never before caught in a plate, and a full photometric analysis of the eclipsed sun's brightness, will be among the scientific trophies which the joint expedition of Georgetown University and the National Geographic Society expect to bring home from the interior of Soviet Russia, where they will set up their in-



TO WATCH THE SUN GO OUT

Dr. Paul A. McNally, S.J., leader of the Georgetown University-National Geographic Society eclipse expedition now on the way to Siberia to study the total solar eclipse on June 19, with one of the instruments which will be trained on the sun when the moon hides it.

struments before "the Day," which is June 19 next.

Dr. Paul A. McNally, director of Georgetown University Observatory and leader of the expedition, outlined to Science Service some of the preparations which have been made.

Get Away From Big Plates

The highly enlargeable photographs represent an effort to get away from the ponderous temporary "astronomic artillery" which it has always been necessary to set up for solar photographs during an eclipse. They have been necessary because of the graininess of rapid photographic emulsions hitherto in use, which necessitated big plates taken through long focal lenses, if astronomers were to get any kind of detail to study.

Dr. McNally, using relatively short focal length cameras and fine-grained photographic emulsions, secured at the 1932 eclipse (Georgetown University total solar eclipse expedition) pictures that rank among the finest ever obtained of any eclipse. These pictures have been successfully enlarged as much as 100 times. Now, thanks to the cooperation of Dr. C. E. K. Mees of the Eastman laboratories at Rochester, N. Y., a still finer emulsion has been applied to glass plates for the first time. Dr. McNally hopes to obtain photographs that will enlarge up to 600 times. Such highly enlargeable photographs will permit the use of smaller, more easily carried and managed instruments, since the originals do not need to be so large.

To Photograph Spectrum

An important part of the expedition's work will be the photographing of the sun's spectrum, or broken-up rainbow-band of light, during the eclipse. Thanks to the development of five new emulsions especially sensitive in the infra-red, photographs of this hitherto unstudied part of the spectrum will be obtained. The expedition will carry glass plates of a unique type, each one bearing all five of these emulsions in adjoining strips or zones, laid down "on the bias" to provide overlaps. The first of the emulsions is sensitive to infra-red rays up near the lower limit of the visible red, and thence they range in sensitivity down to an emulsion especially adapted to the deep infra-red rays of 12,000 Angstrom units wavelength.

When the first of these infra-red sensitive emulsions was brought out, some years ago, the plates could not stand being warmed at all, and had to be kept in a refrigerator. Since then, this instability has been largely overcome.

Another set of five special emulsions, each especially adapted for one group of wavelengths in the visible spectrum, will be used on five by seven inch plates, in the equatorial-mount camera. These will give photometric measurements of the light intensity in their respective parts of the spectrum. These measurements can be used directly in technical astrophysical studies, and they can also be used as the basis for a composite color-picture of the eclipsed sun, in hues of a scientific accuracy hitherto unattempted.

Direct color photographs will also be made during the eclipse, using negatives of the Du Fay process, and in addition a small motion picture camera, attached to the equatorial mounting, will make Kodachrome movies of the eclipse.

The expedition sailed on April 10.

PSYCHIATRY

Unmarried Persons More Prone to Mental Disease

BACHELORS are three times as likely to go insane as are married men. Divorced men are even more likely to develop mental disease, Drs. James Page and Carney Landis of New York Psychiatric Institute revealed in a report to the meeting of the New York Branch, American Psychological Association.

Marriage is not a "vaccine against mental disease," they warned. But it acts as a sieve; men who are later to need treatment for mental disease are not the ones who readily find wives and willingly enter into marriage. If they do get married, they are more likely to be weeded out by divorce.

Here are the striking figures presented to the meeting by Dr. Page: For every one married man admitted to mental hospitals during the period studied, two widowers were admitted, three single men, and about 4.5 divorced men.

For women, the figures are much the same. One married woman to two single women, three divorced women and about 1.4 widowed.

Young people under 25 years old were not considered in these figures.

When the proportion of married and unmarried mental patients was compared with the marital status of the general population, it was found that a somewhat greater percentage of single persons and a markedly greater percentage of divorced persons find

their way into mental hospitals than remain in the population at large. To be sure, it was pointed out, the married people do not always need to go to mental hospitals; they are taken care of at home.

Only among women admitted for alcoholism or general paresis were the numbers of single persons smaller. That is due to the high moral standards of American spinsters, Dr. Page said. "The eugenic implication of this study is that from a heredity viewpoint mental diseases are self-limiting," Drs. Page and Landis concluded. "Since comparatively few mental patients marry, the spread of psychopathic tainting is restricted. In other words the biological principal of the survival of the fittest is present in the field of psychopathology."

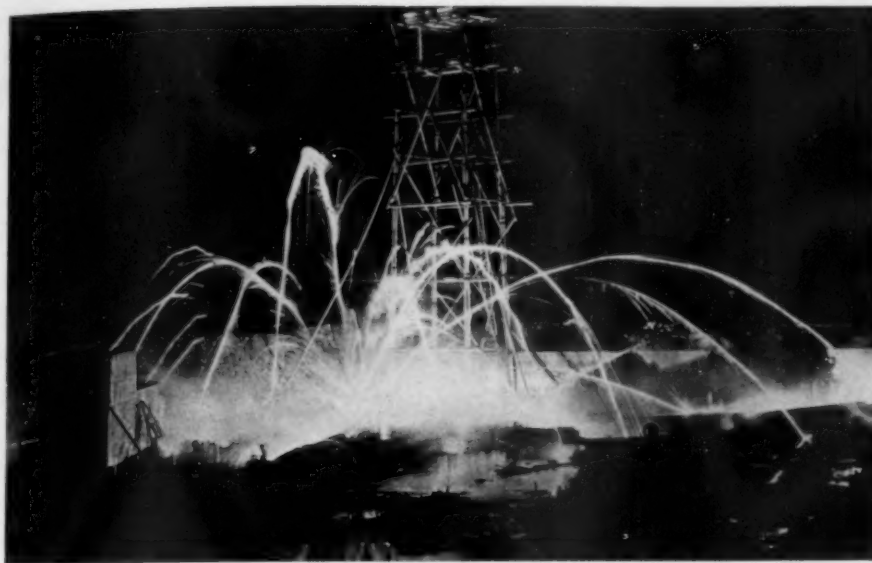
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PHYSIOLOGY

Mongolian Idiots Have Special Finger Markings

THE LINES and crosses on the palms of the hands and the finger-tip whorls are characteristically different in mongolian idiots, Prof. Harold Cummins of Tulane University told members of the American Association of Anatomists at Durham, N. C.

Prof. Cummins has previously found



BOMB OF FIRE

One of the most effective of all incendiary devices used during the World War was the "Baby Incendiary" bomb used by the British. Here is a U. S. Chemical Warfare Service picture showing such a bomb exploding at night with a shower of flaming particles.

that the patterns of the lines of palms of hands and feet differ in the different races of mankind. Each race has its characteristic pattern, he found from studying thousands of palm prints.

Mongolian idiots are not necessarily Mongolians, but have the slanting eyes and other facial characteristics of the Mongolian race. The mental defect is present at birth. Finding of unusual characteristics in the palm patterns of

mongolian idiots indicates that the other physical characteristics are present at least as early as the third or fourth month of prenatal existence, since that is the stage at which the configurations on the palms appear.

The palm print characteristics cannot, Prof. Cummins said, be used as a diagnostic sign in an individual, but are characteristic of the group as a whole.

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PSYCHOLOGY-PHYSIOLOGY

Brain Waves Provide New Clue to Mongolian Idiocy

NEW LIGHT on the brain condition underlying the peculiar mental defect known as mongolian idiocy may be obtained by tapping the electric waves originating in the afflicted person's brain itself, Dr. George Kreezer, of the Vineland Training School, indicated before the meeting of the New York Branch of the American Psychological Association.

Scientists do not know what causes this sort of mental deficiency. Several theories have been advanced, but none of them is entirely satisfactory. It is not thought to be hereditary, because it seldom occurs repeatedly in any one family. The name mongolism was applied to the condition, because of the characteristic physical appearance of individ-

uals with this type of mental deficiency.

Now, the newly developed technique of tapping the brain waves which accompany mental processes throws open a new door for the exploration of brains suffering from this little understood disease, Dr. Kreezer said.

He showed photographs of electric impulses tapped as they came from the brains of idiots with minds no more capable than those of ordinary 6- or 7-year-old children. He also showed, for comparison, brain waves taken from normal individuals.

Great variability exists between the brain wave patterns of different individuals, and idiots vary in this respect just as normal persons do. For this reason, Dr. Kreezer is proceeding with scien-

tific caution in the interpretation of his records.

But the records seem to indicate that, over and above the individual differences, variations in pattern and in frequency exist not only between normal persons and defective individuals, but also between mongolian idiots of relatively high levels of intelligence and those who have minds less capable than little four-year-old children.

Further study of this clue, Dr. Kreezer hopes, will provide new insight into mental deficiency of this type.

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CHEMISTRY

Fogs of Fire Among the Horrors in Next War

FOGS of fire sprayed from low flying airplanes may be among the new horrors which the next war will bring to civilian populations far behind the actual combat lines, suggests Lieut.-Col. A. M. Prentiss of the Chemical Warfare Service.

Fire, spread by incendiary bombs, shells and flame-throwers, is not dead as a war measure, says the Chemical Warfare expert, despite the relatively ineffectual success of incendiary techniques in the World War. The rise of aviation since the war is the reason.

While the actual battle forces have become so mechanized that there is little about them to burn but their clothing, the civilians behind the lines will feel the brunt of the warfare by fire.

The fog of fire, explains Col. Prentiss, would be spontaneously inflammable fluid. "Not only should bombs of such fluid prove effective against specific targets, but by regulating the ignition to occur after the lapse of sufficient time for the liquid to reach the target, such a liquid could be sprayed at night from low-flying attack plane over relatively large areas with tremendous effectiveness," Col. Prentiss declares.

Writing in *The Military Engineer* (March-April) publication of the Society of American Military Engineers, Col. Prentiss traces the history of fire-making devices in warfare from the first "flame-thrower" used at Delium in 424 B.C., through the famous "Greek fire" of 660 A.D., down to the World War.

The apparent lack of success in the last conflict, he points out, was due in part to the fact that many of the chemicals were only in experimental production and never received a fair trial in the conflict.

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NEW BOOKS ON SCIENCE

Science News Letter presents a comprehensive list of scientific books published or to be published between January 1 and June 30, 1936. All information is believed to be correct but is not guaranteed. Prices are listed where known. Prices marked * are tentative. This list is recommended as a handy reference in the purchasing of books on science.

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Archaeology, Anthropology

- ANTHROPOLOGY—Boas and others—*Heath*.
 ARCHAEOLOGICAL HISTORY OF IRAN—E. E. Herzfeld—*Oxford*, \$3.
 BIBLE AND SPADE—S. L. Caiger—*Oxford*, \$2.
 DJABO PROVERBS FROM LIBERIA—Herzog and Blooah—*Oxford*, \$4.50.*
 DREAMS IN PRIMITIVE CULTURE—Lincoln—*Williams & Wilkins*.
 EXCAVATIONS AT MINTURNÆ, VOL. I—Jotham Johnson—*U. of Pennsylvania*, \$5.
 EXCAVATIONS AT THERMI IN LESBOS—Winfred Lamb—*Cambridge (Macmillan)*, \$15.*
 HERITAGE OF THE BOUNTY—Harry Shapiro—*Simon & Schuster*, \$3.
 HISTORY OF EARLY IRAN—George G. Cameron—*U. Chicago*, \$3.
 HOPI JOURNAL (COLUMBIA UNIV. CONTRIBUTIONS TO ANTHROPOLOGY)—Elsie Clews Parsons—*Columbia*.
 IN QUEST OF LOST WORLDS—Count Byron de Prorak—*Dutton*, \$3.50.
 INDIANS OF THE PUEBLOS—Therese O. Deming; il. by Edwin Willard Deming—*A. Whitman*, \$1.50.
 THE LAW AND THE PROPHETS—Harold Peake and Herbert John Fleure—*Yale*, \$2.
 MEASURES OF MEN—Harold Cummins and others—*Tulane U.*, \$5.
 THE MEDICINE-MAN OF THE AMERICAN INDIAN—Wm. T. Corlett—*Thomas*, \$5.
 THE MESOLITHIC SETTLEMENT OF NORTHERN EUROPE—J. G. D. Clark—*Cambridge (Macmillan)*, \$8.50.*
 NEW ARCHEOLOGICAL SITES FROM THE STATE OF FALCON, VENEZUELA (IBERO-AMERICANA SER.)—Gladys Ayer Nomland—*U. of California*, \$1.50.
 PAPUANS OF THE TRANS-FLY—F. E. Williams—*Oxford*, \$10.
 PAPYRI IN THE UNIVERSITY OF MICHIGAN COLLECTION: MISCELLANEOUS PAPYRI (HUMANISTIC SER.)—J. G. Winter, ed.—*U. of Michigan*, \$4.
 POPULATION GROWTH—R. R. Kuczynski—*Oxford*, \$4.
 THE POTTERY OF PECOS, Vol. II—Alfred Vincent Kidder and Anna O. Shepard—*Yale*, \$5.
 PREHISTORIC MAN IN IRELAND—Cecil P. Martin—*Macmillan*, \$7.50.
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 REACTION TO CONQUEST: EFFECTS OF CONTACT WITH EUROPEANS ON THE PONDO OF SOUTH AFRICA—M. Hunter—*Oxford*, \$14.*
 REPORTS OF THE CAMBRIDGE ANTHROPOLOGICAL EXPEDITION TO TORRES STRAITS, Vol. I—A. C. Haddon—*Cambridge (Macmillan)*, \$14.
 ROMAN EGYPT TO THE REIGN OF DIOCLETIAN—Allan C. Johnson, ed. by Tenney Frank—*Johns Hopkins*, \$4.
 ROMAN GLASS FROM KARANIS FOUND BY THE UNIVERSITY OF MICHIGAN ARCHAEOLOGICAL

- EXPEDITION IN EGYPT, 1924-29—Donald B. Harden—*U. Michigan*, \$4.*
 SOCIAL THOUGHT OF THE ANCIENT CIVILIZATIONS—J. O. Hertzler—*McGraw*.
 SURINAME FOLKLORE (COLUMBIA UNIV. CONTRIBUTIONS TO ANTHROPOLOGY)—Melville J. Herskovits and Frances S. Herskovits—*Columbia*.
 TOMB DEVELOPMENT—G. A. Reisner—*Oxford*, \$35.*
 TREE LORE IN THE BIBLE—Lonsdale Ragg—*Macmillan*, \$1.60.
 UGANDA—Thomas and Scott—*Oxford*, \$5.
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 VOTIVE AND HISTORICAL TEXTS FROM BABYLONIA AND ASSYRIA—Ferris J. Stephens—*Yale*, \$5.
 WE EUROPEANS—Julian S. Huxley and A. C. Haddon—*Harper*, \$2.50.
 WINTU ETHNOGRAPHY (AMERICAN ARCHAEOLOGY AND ETHNOLOGY SER.)—Cora Du Bois—*U. of California*, \$1.75.
 THE YALE UNIVERSITY PUBLICATIONS IN ANTHROPOLOGY—Edward Sapir and Leslie Spier, eds.—*Yale*, Vol. I, \$2. Vol. II, \$2.50.
 ZUNI MYTHOLOGY; 2 VOLS. (COLUMBIA UNIV. CONTRIBUTIONS TO ANTHROPOLOGY)—Ruth Benedict—*Columbia*.

Astronomy

- ASTRONOMY FOR THE LAYMAN—Frank Reh—*Appleton*, \$3.
 BOYS' BOOK OF ASTRONOMY (rev.)—Gable & Swezey—*Dutton*, \$2.
 HANDBOOK OF THE HEAVENS—Bernhard, Bennett and Ride—*McGraw*, \$1.
 HIGHLIGHTS OF ASTRONOMY—Walter Bartky—*U. of Chicago*, \$3, *Stellarscope*, \$2.
 A LIST OF PROPER MOTIONS EXCEEDING 0.50" ANNUALLY IN THE CAPE ASTROGRAPHIC ZONE—W. B. Luyten—*U. Minn.*, 50c.
 THE REALM OF THE NEBULAE—Edwin Hubble—*Yale*, \$3.
 STARS AND TELESCOPES—James Stokley—*Harper*, \$3.
 THROUGH MY TELESCOPE—W. T. Hay—*Dutton*, \$1.50.
 THROUGH THE TELESCOPE—Edward Arthur Fath—*Whittlesey*, \$2.75.

Biology

- ADVANCE GENERAL BACTERIOLOGY—C. I. Nelson and D. G. Rosa—*Burgess*, \$1.25.
 AN ANALYSIS OF THE "EXERCITATIONES DE GENERATIONE DE ANIMALUM"—Arthur W. Meyer—*Stanford*, \$3.*

- BIOLOGICAL CONTROL OF INSECTS—H. L. Sweetman—*Comstock*.
 BIOLOGICAL EFFECTS OF RADIATION, 2 Vols.—B. M. Duggar, ed.—*McGraw*, \$12 per set.
 BIOLOGY AND HUMAN BEHAVIOR—Mark Graubard—*Tomorrow*, \$2.50.
 BOOK OF THE SEASHORE—Howard J. Shannon—*Doubleday*, \$3.50.
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 GENERAL BIOLOGY: Laboratory Manual—J. W. Mavor and L. B. Clark—*Macmillan*.
 GENERAL ENTOMOLOGY—R. A. Wardle—*Blakiston's*.
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 GUIDE FOR THE BEGINNING NATURALIST—Ronald Whitney—*Webster*, 25c.
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 A LEARNING GUIDE IN BIOLOGY—Downing and McAtee—*Lyons*.
 MANUAL OF BIOLOGY (rev. 5th ed.)—G. A. Baitsell—*Macmillan*, \$2.60.*
 MANUAL OF QUALITATIVE MICRO-ANALYSIS—Carl J. Engelder—*Wiley*.
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 ORDER AND LIFE—Joseph Needham—*Yale*, \$2.50.
 OUR WORLD OF LIVING THINGS: Book I and Book II—Obourn, Heiss and Manzer—*Webster*, 56c each.
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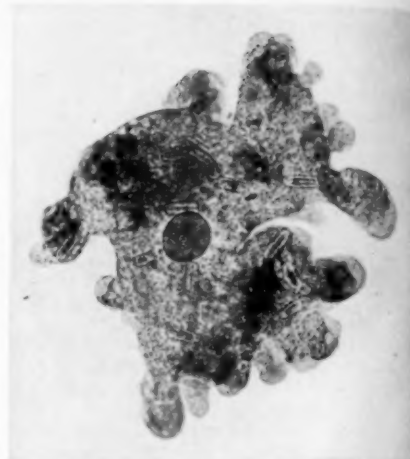
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Science News Letter, April 18, 1936

NUTRITION

Chocolate

● "The Spanish for a long time kept secret the method of preparing chocolate. When Cortez and the Spaniards entered the vast empire of Montezuma, they found that the use of cocoa and chocolate as beverages was common. The Emperor drank it flavored with vanilla from a golden cup. When Cortez sent to Charles V the principal products of the New World, he included cocoa. The conquerors were not slow to appreciate its excellent qualities, and introduced it into Spain."—Louise Stanley and Jessie Alice Cline in *FOODS, THEIR SELECTION AND PREPARATION* (Ginn).

Science News Letter, April 18, 1936

PHYSICS

Superior Substitutes

● "Not only are we adopting various alloys, which we call upon to do tasks that the pure metals are unable to perform, but also today we find ourselves surrounded by many synthetic substitutes for such natural products as leather, silk, rubber and many other substances. Not only have we found many superior substitutes for natural substances, but also many new compositions have been developed with characteristics that would have been unbelievable some years ago."—Louis M. Heil in *THE PHYSICAL WORLD* (Blakiston's).

Science News Letter, April 18, 1936

THE AUD

ANTHROPOLOGY

Dangerous Myth

● "The cure for the racial mythology, with its accompanying self-exaltation and persecution of others, which now besets Europe, is a re-orientation of the nationalist ideal, and, in the practical sphere, an abandonment of claims by nations to absolute sovereign rights. Meanwhile, however, science and the scientific spirit can do something by pointing out the biological realities of the ethnic situation, and by refusing to lend her sanction to the absurdities and the horrors perpetrated in her name. Racism is a myth, and a dangerous myth at that. It is a cloak for selfish economic aims which in their uncloaked nakedness would look ugly enough. And it is not scientifically grounded. The essence of science is the appeal to fact."—Julian S. Huxley and A. C. Haddon in *WE EUROPEANS* (Harper).

Science News Letter, April 18, 1936

ARCHAEOLOGY

Ancient Tradition

● "The Biblical tradition of Abraham's early connexion with 'Ur of the Chaldees,' whether integral in the oldest document or not, is strongly supported by archaeological research.

"The implications of the influence of Babylonian legend upon the earliest Hebrew traditions have already been mentioned.

"We have also the evidence of the Biblical names which so often, as it were inadvertently, embody very primitive tradition. Thus the name Abraham, also in the form Abram, has been identified on Babylonian contract tablets as that of a small farmer under the First Dynasty (c. 2200 B.C.). Among the witnesses to such contracts appear the names Jacob (*Yakubu-ilu*) and Joseph (*Yasup-ilu*); and it is said that Israel (as a personal name) has been found on a Babylonian seal of 2500 B.C. Other names connected with the story of Abraham, such as Terah, Sarah, Milcah, Laban, and so forth, have a Babylonian rather than a distinctively Hebrew flavour, and it is to be noted that few of them reappear in later Judaism."—Stephen L. Caiger in *BIBLE AND SPADE* (Oxford Univ. Press).

Science News Letter, April 18, 1936

WISDOMS SAY:

MINERALOGY

Fortunate Rage

● "A blacksmith working in his little shop in the wilds of Canada, annoyed by the howling of a fox outside, threw his hammer at the animal. Though he missed the fox, his hammer knocked off the corner of a rock, exposing beautiful metallic cobalt ore, full of native silver; thus the great mines of Cobalt in Ontario began. And scientists working with sensitive magnetic instruments in Sweden located another great ore deposit (magnetic pyrites) under a swamp."—Alfred C. Hawkins in *THE BOOK OF MINERALS* (Wiley).

Science News Letter, April 18, 1935

ENGINEERING

Deprecation

● "It will be noticed that the Centigrade scale is used throughout; almost the last words I had in conversation with Sir Alfred Ewing were in deprecation of the continued use of the Fahrenheit scale, which he hoped would rapidly go into disuse. Is it too much to hope that engineers will gradually adopt the metric system in their dealings with steam and oil?"—A. Ederton in preface to *THERMODYNAMICS FOR ENGINEERS*, by J. A. Ewing (Cambridge Univ. Press).

Science News Letter, April 18, 1936

PHYSICS

Ideas

● "Science does not find ready-made the concepts with which it operates: it has to form them artificially and their perfecting is a gradual process. It draws its material from life and it reacts upon life; its impulse, its consistency, and its vitality came from the ideas at work in it. It is the ideas which place before the student the problems with which he deals, which impel him to work without cease, and which enable him correctly to interpret the results he obtains. Without ideas investigation becomes aimless and the energy expended upon it is wasted. Ideas alone make a physicist of an experimenter, an historian of a chronicler, and a philologist of a graphological expert."—Max Planck in *THE PHILOSOPHY OF PHYSICS* (Norton).

Science News Letter, April 18, 1936

ZOOLOGY

No Rival

● "Civilized man has opened his door to many animals. There is, of course, the cat. But one cannot own a cat: one merely provides it with a home. Imperial, even in the recklessness of his wooing, the cat 'walks alone.' Slit-eyed, he may share our kitchen fire, but we are not deceived. Neither is he. He sees through us. He has never surrendered his return ticket to the jungle. . . .

"Surely the dog need fear few rivals to our hearths, none to our hearts."—Stanley West in *THE BOOK OF DOGS* (Appleton-Century).

Science News Letter, April 18, 1936

PSYCHOLOGY

Freedom's Cry

● "Man's unwillingness to have either his ideas or his behavior prescribed is revealed in many ways. A person often refuses to accept an idea that is presented directly or to perform an act that is requested in a mandatory way, but acquiesces later when the dictatorial person is not observing him. . . . Almost everyone has had occasion to observe responses such as these to 'back-seat' driving, for example. Similarly, the cry for liberty one hears everywhere is, among other things, an expression of a desire to feel free to order one's own life."—Wendell White in *THE PSYCHOLOGY OF DEALING WITH PEOPLE* (Macmillan).

Science News Letter, April 18, 1936

ASTRONOMY

Saving Time

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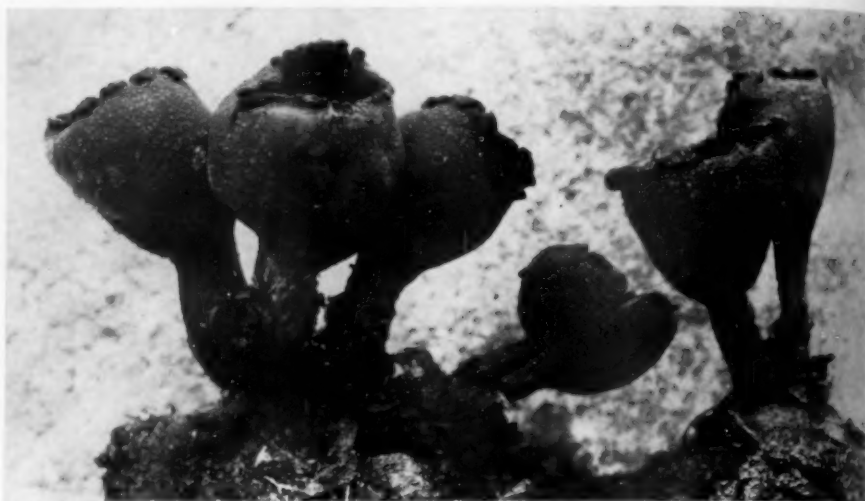
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Jumbled Names

NAMES are supposed to be, in effect, brief definitions. Things called by the same name are supposed to be alike; things that are not alike are supposed to be given different and distinctive names. But because we are often a bit fuzzy in our ideas of what things are alike, and what are unlike, we fall very easily into a very Babel-confusion of misnaming.

Sometimes the error arises through lack of the technical knowledge needed to split superficially similar things into classes that represent their real differences. Frequently this lack will be in a very simple and elementary department of knowledge, where the average man is as well equipped to know (and hence to distinguish) as the scientist or philosopher.

Thus, of the long-eared, long-legged, leaping animals we commonly know simply as rabbits, there are two distinct classes or groups. The animals in one class never dig burrows, and their proper name is hares. Those in the other class do dig burrows, and they are the real rabbits. All species of native American "rabbits" are non-burrowers, and should therefore be called hares. But they never will be, of course.

A more frequent cause of misnaming is an easy-going pragmatic habit of calling things by the same name if there is a superficial resemblance, even when it is realized that there really is a basic difference. Our American robin, for example, was named by homesick English settlers for its resemblance to the red-breasted little bird they had known at home. Really the two birds do not even look very much alike; and in the ornithologist's lists of species they are yards apart.

Another source of nomenclatural confusion is the lumping of things found

in the same place, or having similar general habits. We all know that oysters, clams, and other creatures we call shellfish are not fish, but because they live in the water we keep on calling them by the name of an entirely different class of animals that also live in the water. Similarly, we give false ichthyological tags to such diverse and utterly un-fishlike things as cuttlefish, jellyfish, and starfish.

There is no use scolding ourselves about this laxity in handing out wrong names, even though it actually does a certain amount of harm in fixing wrong notions in people's heads. It is too old a habit, and of too long standing, to do anything about it. But it might nevertheless be a wholesome thing if we were to stop once in a while, in the presence of almost any object, and ask ourselves, "Is this thing really what I am calling it?"

Science News Letter, April 11, 1936

MUSEUMS

Night-Illuminated Museum Offers "Spooky" Sight

See Front Cover

SCARY folk, who shiver at skeletons even in broad daylight, had best keep away from the neighborhood of museums at night. Else they may be treated to a view of a spooky-looking array of bones apparently suspended by magic in the lurid light within. Actually, of course, the thing is nothing but the skeleton of some sea creature hung from the ceiling to spare floor space. The picture was taken through the windows of the U. S. National Museum in Washington.

Science News Letter, April 11, 1936

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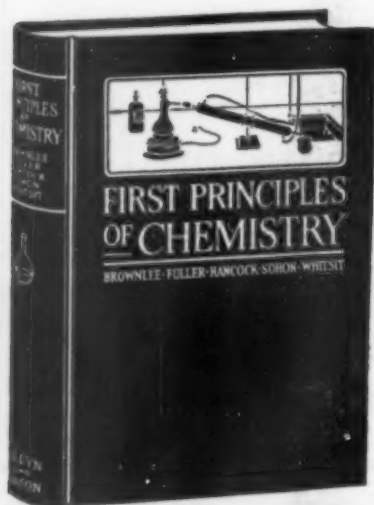
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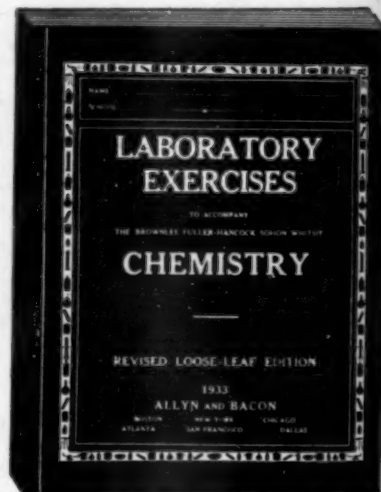


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